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Leaves of aquatics. — McCallum¹ gives the results of experiments designed to discover the factors determining the production of the well-known air and water forms of leaves in *Proserpinaca palustris*. After describing the form and anatomy of the two types of leaves, he gives the results of his experiments, which seem to show that the production of the submerged, much-dissected type, or the aërial, simply serrate type, is not determined by difference in illumination, nutrition, depth of water, temperature, stimulating influence of salts, variation of concentration of CO₂ or O, or contact stimulus. When, however, the plants were grown in a saturated atmosphere, a type of leaf very close to the regular submerged type is produced, and when plants grown under water are subjected to artificial transpiration induced by a change in osmotic pressure secured by a solution of mineral salts in the water, the air type of leaf was produced. Further experiments, the results of which will be presented later, are in progress.

J. A. HARRIS.

Notes. — The *American Journal of Pharmacy* for September contains an article on *Hyoseyamus muticus*, by Nagelvoort, and an account of the drug and medicinal-plant investigations in the Department of Agriculture, by True.

In the *American Journal of Science* for September, Fernald discusses the relationship of some American and Old-World birches; Sellards describes the fertile fronds of *Crossotheca* and *Myriothea*, and the spores of other Carboniferous ferns, and also the validity of *Idiophyllum rotundifolium*, a fossil plant from the Coal Measures.

The *Bulletin of the Torrey Botanical Club* for August contains the following articles: Slosson, "The Origin of *Asplenium ebenoides*" (including the results of artificial hybridization of *Camptosorus rhizophyllus* and *Asplenium platyneuron*, and confirming the assumed hybrid nature of *A. ebenoides*, except that the artificial hybrids have not yet been made to fruit); Evans, "Hepaticæ of Puerto Rico"; White, "The Saltatory Origin of Species"; and Eastwood, "New Western Plants."

In Engler's *Botanische Jahrbücher* of August 29 are published the conclusion of Miss Perkins's "Beiträge zur Kenntniss der Stryacaceæ"; a monographic synopsis of the genus *Lisianthus*, by the same

¹ McCallum, W. B. On the Nature of the Stimulus causing the Change of Form and Structure in *Proserpinaca palustris*, *Botanical Gazette*, vol. xxxiv (August, 1902), pp. 93-108, Figs. 1-10.

author; a paper on *Nectria moschata*, by Glück; one on the anatomy of Anonaceæ, by Beyer; a study of Berberidaceæ, by Tischler; a supplement to Miss Perkins's monograph of Monimiaceæ; a paper by Hennings, on the fungi of Japan; a discussion of the wind as a factor in plant geography, by Warming; and a paper on the geographical distribution of mosses in middle Europe.

The Beiblatt, No. 70, of the same number, contains Dr. Clements's paper on a system of nomenclature for phytogeography, read in Denver last year, with concise comments by Professor Engler, and No. 4 of Urban's "Plantæ novæ americanæ, imprimis Glaziovianæ," dealing with palms, and written by Dammer.

The *Ottawa Naturalist* for September contains a paper on the arboretum and botanic garden at Ottawa, and a short account of the plants at Norway Bay, Bristol, both by W. T. Macoun.

Professor Greene, who had thought of discontinuing *Pittonia* at the conclusion of the fourth volume, has decided differently, and under dates of September 9 and September 18 issues the first fifty-six pages of the fifth volume. These two installments include the following papers: "New or Critical Species of Acer," "A New Study of Microseris," "Some Phacelia Segregates," "Segregates of *Viola canadensis*," "Some New Acaulescent Violets," "Revision of Romanzoffia," "Revision of Capnorea," "New Species of Cryptanthus," and "A Fascicle of New Compositæ."

Torreya for September contains the following articles: Kirkwood, "The Vegetation of Northwestern Oregon"; Peirce, "Extrusion of the Gametes in Fucus"; Lloyd, "Mutual Irregularities in Opposite Leaves"; Earle, "A Key to the North American Species of Lactarius"; Kraemer, "The Pith Cells of *Phytolacca decandra*"; and Rydberg, "A New Station for *Isotria affinis*."

K. K. Mackenzie and B. F. Bush have issued a manual of the flora of Jackson County, Missouri, which includes descriptions of 1141 species and 50 additional varieties, contained in 500 genera. This differs from the usual local floras in being a descriptive handbook, with keys to the higher groups and to the species of the larger genera.

In the *Sierra Club Bulletin* for January Miss Eastwood gives an account of Trinity County, California, with a list of the trees and shrubs found in that county.

The shrubs of Wyoming form the subject of *Bulletin 54* of the Wyoming Experiment Station, written by Elias E. Nelson.

The *Bulletin of the Geographical Society of Philadelphia* for April contains a report of the Brown-Harvard expedition to Labrador in 1900, and includes an extensive account of the botany of the expedition, with lists of the plants collected.

The *West American Scientist* for August, selling for ten cents, and Mr. Orcutt's *Review of the Cactaceæ* for the same month, selling for twenty-five cents, consists of the same signature of cactus notes.

A photogram of *Echinocactus cylindraceus* is contained in the August number of the *Monatsschrift für Kakteenkunde*.

Die Gartenwelt of August 23 contains an article on noteworthy trees of Hanover, illustrated by a number of pictures of trees growing under unusual conditions and displacing objects in their way.

Fasciation in the leaves of *Euonymus japonicus* is described by De Camps in the *Memorias de la Real Academia de Ciencias y Artes de Barcelona*, Vol. IV, No. 20.

The exhibition of botanical objects under the microscope in museums is the subject of an illustrated article by Howe in the *Journal of the New York Botanical Garden* for September.

The *Yearbook of the Department of Agriculture* for 1901, in addition to the usual administrative and statistical portions, contains a large number of economic articles, many of them of botanical interest.

The many publications of the U. S. Department of Agriculture, including those issued by the Patent Office, have been listed by the division of publications of the department in a recently issued bulletin, which will prove very serviceable to libraries possessing sets of these publications. A catalogue of the botanical publications in the library of the same department, by Miss Clarke, constitutes *Library Bulletin No. 22* of the department.

An interesting item in *Advance Sheets of Consular Reports* of August 30 shows that during July one hundred and eighty thousand bunches of bananas were shipped from Puerto Cortes, Honduras, to New Orleans and Mobile, and one hundred thousand additional bunches were paid for and destroyed by the contractors.

An economic study of berseem (*Trifolium alexandrinum*), much cultivated in the Nile valley, forms the subject of *Bulletin No. 23* of the Bureau of Plant Industry of the U.S. Department of Agriculture, written by Fairchild.

Nos. 50 and 51 of the *Contributions from the Cryptogamic Laboratory of Harvard*, published respectively as Nos. 2 and 3 of Vol. XXXVIII of the *Proceedings of the American Academy of Arts and Sciences*, are: "Preliminary Diagnoses of New Species of Laboulbeniaceæ," V, by Thaxter; and a paper on *Cauloglossum transversarium*, by Johnston.

A monograph of the Acrasieæ, by E. W. Olive, forms No. 6 of the current volume of the *Proceedings of the Boston Society of Natural History*. This is another of the foundation-laying studies from the cryptogamic laboratory of Harvard.

A biographical sketch of Marc Micheli, with an excellent portrait, has been distributed by M. de Candolle, from the *Archives des Sciences Physiques et Naturelles* for July.